

1. 新建数据库并且使用:

```
mysql> CREATE DATABASE hehe;
Query OK, 1 row affected (0.01 sec)

mysql> USE hehe
Database changed
mysql> create table user(
```

创建表并插入数据:

```
mysql> CREATE TABLE user (
->     id INT AUTO_INCREMENT PRIMARY KEY,
->     name VARCHAR(50) NOT NULL,
->     sex ENUM('Male', 'Female') NOT NULL,
->     age INT NOT NULL,
->     phone VARCHAR(15) NOT NULL
-> );
Query OK, 0 rows affected (0.05 sec)

mysql> INSERT INTO user (name, sex, age, phone) VALUES
-> ('John Doe', 'Male', 25, '123-456-7890'),
-> ('Jane Smith', 'Female', 31, '987-654-3210'),
-> ('Bob Johnson', 'Male', 22, '555-123-4567');
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0
```

检查是否插入成功:

```
mysql> SELECT * FROM user;
+----+-----+-----+-----+-----+
| id | name       | sex   | age  | phone       |
+----+-----+-----+-----+-----+
| 1  | John Doe   | Male  | 25   | 123-456-7890 |
| 2  | Jane Smith | Female| 31   | 987-654-3210 |
| 3  | Bob Johnson| Male  | 22   | 555-123-4567 |
+----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

2. 查询 user 表中所有年龄在 20-30 范围内的用户:

```
mysql> SELECT * FROM user
-> WHERE age BETWEEN 20 AND 30;
+----+-----+-----+-----+-----+
| id | name       | sex   | age  | phone       |
+----+-----+-----+-----+-----+
| 1  | John Doe   | Male  | 25   | 123-456-7890 |
| 3  | Bob Johnson| Male  | 22   | 555-123-4567 |
+----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

3. 向 user 表中添加自己的个人信息，并添加几条和你姓名同姓的虚拟信息：

```
mysql> INSERT INTO user (name, sex, age, phone) VALUES
-> ('Ding yinwei', 'Male', 20, '123-987-6543'),
-> ('Ding Wei', 'Male', 30, '111-222-3333'),
-> ('Ding Fang', 'Female', 26, '444-555-6666'),
-> ('Ding Yu', 'Male', 29, '777-888-9999');
Query OK, 4 rows affected (0.01 sec)
Records: 4 Duplicates: 0 Warnings: 0
```

4. 查询 user 表中年龄在 20-30 范围内,名字包含“你的姓氏”的用户,并按照年龄从大到小排序输出：

```
mysql> SELECT * FROM user
-> WHERE age BETWEEN 20 AND 30 AND name LIKE 'Ding%'
-> ORDER BY age DESC;
```

id	name	sex	age	phone
5	Ding Wei	Male	30	111-222-3333
7	Ding Yu	Male	29	777-888-9999
6	Ding Fang	Female	26	444-555-6666
4	Ding yinwei	Male	20	123-987-6543

4 rows in set (0.00 sec)

5. 计算 user 表中所有用户的平均年龄：

```
mysql> SELECT AVG(age) AS average_age FROM user;
```

average_age
26.1429

1 row in set (0.00 sec)

6. 新建两张表 team 表(id,teamName)和 score 表(id,teamid,userid,score)。其中 score 表中的 teamid 为指向 team 表 id 的外键，userid 为指向 user 表 id 的外键

```
mysql> CREATE TABLE team (
-> id INT AUTO_INCREMENT PRIMARY KEY,
-> teamName VARCHAR(50) NOT NULL
-> );
Query OK, 0 rows affected (0.04 sec)

mysql> CREATE TABLE score (
-> id INT AUTO_INCREMENT PRIMARY KEY,
-> teamid INT,
-> userid INT,
-> score INT NOT NULL,
-> FOREIGN KEY (teamid) REFERENCES team(id),
-> FOREIGN KEY (userid) REFERENCES user(id)
-> );
Query OK, 0 rows affected (0.06 sec)
```

7. 在 team 表中和 score 表中插入合适的记录, 写出 SQL 语句, 查询 teamName 为“ECNU”的队伍中, 年龄小于 20 的用户们, 结果不得为空。

```
mysql> SELECT u.name, u.age, t.teamName
-> FROM user u
-> JOIN score s ON u.id = s.userid
-> JOIN team t ON s.teamid = t.id
-> WHERE t.teamName = 'ECNU' AND u.age < 20;
```

name	age	teamName
Ding Pei	18	ECNU
Ding Kang	19	ECNU

2 rows in set (0.00 sec)

8. 计算 teamName 为“ECNU”的总分(假设 score 存在 null 值, null 值默认为 0 加入计算)。

```
mysql> SELECT t.teamName, SUM(COALESCE(s.score, 0)) AS total_score
-> FROM team t
-> JOIN score s ON t.id = s.teamid
-> WHERE t.teamName = 'ECNU';
```

teamName	total_score
ECNU	350

1 row in set (0.00 sec)

9. 删除 user 表中个人信息的记录。

```
mysql> DELETE FROM user
-> WHERE name = 'Ding yinwei';
Query OK, 1 row affected (0.01 sec)
```

删除前:

```
mysql> SELECT * FROM user;
```

id	name	sex	age	phone
1	John Doe	Male	25	123-456-7890
2	Jane Smith	Female	31	987-654-3210
3	Bob Johnson	Male	22	555-123-4567
4	Ding yinwei	Male	20	123-987-6543
5	Ding Wei	Male	30	111-222-3333
6	Ding Fang	Female	26	444-555-6666
7	Ding Yu	Male	29	777-888-9999
8	Ding Pei	Male	18	111-222-3333
9	Ding Kang	Female	19	444-555-6666
10	Ding Bu	Male	14	777-888-9999

10 rows in set (0.00 sec)

删除后:

```
mysql> SELECT * FROM user;
```

id	name	sex	age	phone
1	John Doe	Male	25	123-456-7890
2	Jane Smith	Female	31	987-654-3210
3	Bob Johnson	Male	22	555-123-4567
5	Ding Wei	Male	30	111-222-3333
6	Ding Fang	Female	26	444-555-6666
7	Ding Yu	Male	29	777-888-9999
8	Ding Pei	Male	18	111-222-3333
9	Ding Kang	Female	19	444-555-6666
10	Ding Bu	Male	14	777-888-9999

9 rows in set (0.01 sec)